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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,502	10/30/2003	Regis J. Crinon	MSI-1624US	8051
7590	02/23/2006		EXAMINER	
KLARQUIST SPARKMAN , LLP ONE WORLD TRADE CENTER 121 S. W. SALMON STREET , SUITE 1600 PORTLAND OREGON, OR 97204			SUN, SCOTT C	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/697,502	CRINON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Scott Sun	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 November 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 34,35,39,40 and 43-76 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 34,35,39,40 and 43-76 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All    b) Some \* c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/1/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of claims 34, 35, 39 and 40 in the reply filed on 11/30/2005 is acknowledged. However, applicant fails to provide ground(s) for traversal by distinctly and specifically point out the supposed errors in the restriction requirement. Furthermore, applicant has cancelled the non-elected claims. Therefore, any argument directed to the non-elected claims would be moot. Accordingly, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Response to Arguments***

2. Applicant's arguments filed 11/30/2005 have been fully considered but they are not persuasive.
3. Applicant's arguments regarding claims 34 and 39 are summarized as follows:
  - a. Naegel does not teach claim limitation "wherein relative to data of the conventional channel, data of the robust channel have a higher level of robustness to transmission errors".
4. Examiner asserts that Naegel teaches selecting a cleaner channel when the current channel becomes too noisy (see applicant's remarks). Because the new channel has less noise, data in the new channel are less susceptible to errors. Therefore "relative to data of the conventional channel (current channel), data of the

robust channel (new channel) have a higher level of robustness to transmission errors."

The claim limitation does not state what causes a higher level of robustness, but simply cites data is more robust to transmission errors.

5. Having addressed each of applicant's arguments, examiner maintains the prior rejection. Additionally, new ground(s) of rejection are provided in response to the amendments made to the original claims 34, 35, 39, 40 and the addition of new claims 43-76.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 48, 49, 58, 59, 71, 72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

8. Regarding claims 48, 58, and 71, examiner finds no recitation or explanation of the claim limitation "multiple buffer models address transmission with different degrees of robustness to transmission errors such that rate for the conventional channel and rate for the robust channel vary from buffer model to buffer model at a given fixed rate for the transmission channel". Examiner notes that the specification teaches multiple buffer

models are used to modify a buffer on a receiver to accommodate for the rate difference between robust and conventional channels, but does not state that rates for conventional and robust channels vary *at a given fixed rate* for the transmission channel. For the purpose of continuing prosecution, examiner will interpret the limitation as “multiple buffer models address transmission with different degrees of robustness to transmission errors such that rate for the conventional channel and rate for the robust channel vary from buffer model to buffer model based on a rate selected for the transmission channel”.

9. Regarding claims 49, 59, and 72, examiner finds no recitation or explanation of the claim limitation “rate for the transmission channel exceeds rate for the conventional channel *plus* rate for the robust channel by an amount that varies depending on transmission robustness”. On the contrary, figure 4 and 5 appear to show that the total bit rate of the transmission channel to be equal to, not greater than, the sum of rates of robust and conventional channel. For the purpose of continuing examination, examiner will interpret the limitation in light of the specification (figure 4 and 5) as “rate for the transmission channel exceeds rate for the conventional channel *and exceeds* rate for the robust channel by an amount that varies depending on transmission robustness”.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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11. Claims 48, 49, 58, 59, 71, 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 48, 58, 71 recite "multiple buffer models address transmission with different degrees of robustness to transmission errors such that rate for the conventional channel and rate for the robust channel vary from buffer model to buffer model *at a given fixed rate for the transmission channel*", the meaning of which is unclear. Examiner notes that applicant discloses rate for the transmission channel is not fixed, but rather selected from varying rates (figures 4-8; paragraphs 20, 26), and although rate for the conventional channel and the robust channel also vary, they appear to correspond to the selected rate for the transmission channel.

13. Claim 49, 59, 72 recite "rate for the transmission channel exceeds rate for the conventional channel *plus* rate for the robust channel by an amount that varies depending on transmission robustness", the meaning of which is unclear. Because rate of the entire transmission channel by definition is equal to the sum of the rates of its sub-channels (in the specific example, robust and conventional channels), it would never exceed the sum by an amount that varies. Examiner notes that applicant may intend to mean "rate for the transmission channel exceeds rate for the conventional channel *and exceeds* rate for the robust channel by an amount that varies depending on transmission robustness", and will interpret the claims accordingly.

14. The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejections above.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 34, 35, 39, 40, 43, 47-56, 60-62, 66-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (PG Pub# US 2002/0061073 A1) in view of Ribas-Corbera et al. (PG Pub# US 2003/0053416 A1) and Naegel et al. (US Patent 6, 775, 840).

17. As per claim 34, Huang discloses in a receiver (figure 4), a method comprising:  
Detecting a descriptor (control message) within data transmitted by a transmitter;  
(paragraph 71);

Obtaining rate (modulation rate) information from the descriptor (paragraph 71);  
Huang does not disclose expressly selecting between conventional and robust channels. However, Naegel discloses a method for selecting between conventional (current) and robust channel (new channel), wherein relative to data of the conventional channel, data of the robust channel have a higher level of robustness to transmission errors (figure 7, column 13, line 1-27). Teachings of Huang and Naegel are from the same art of signal transmission/broadcasting, particularly in transmission quality control.

Therefore, at the time of the invention it would have been obvious to combine Huang's invention with Naegel's invention by adding Naegel's channel selection algorithm to Huang's receiver. The motivation for doing so would have been to further provide the receiver with noise reduction capabilities in the case of a multi-channel transmission (Naegel, column 1, lines 10-12; column 6, lines 44-49)

Teachings of Huang and Naegel combined does not disclose expressly a set of buffer parameters and buffering the received data until a buffer contains more than an initial buffer fullness values included within the buffer parameters. Ribas-Corbera teaches identifying a corresponding set of buffer parameters (RBF) from a descriptor; configuring memory resources (buffer size) and flow control logic (rate and initial fullness) to provide elementary stream acquisition according to guidelines embodied by the identified set of buffer parameters; identifying a corresponding set of buffer parameters from a descriptor, and buffering the received data until a buffer contains more than an initial buffer fullness values included within the buffer parameters (paragraphs 8, 9, 28-30, 34-35). Examiner notes that Ribas-Corbera teaches a set of buffer parameters designating the RBF (rate, buffer size, and initial fullness) values of the receive buffer. Teachings of Huang, Naegel and Ribas-Corbera are from the same art of signal transmission/broadcasting.

Therefore, at the time of the invention it would have been obvious to combine teachings of Huang and Naegel and further with teachings of Ribas-Corbera by adding Ribas-Corbera's "leaky bucket" algorithm to Huang's transmitter/receiver. The motivation for doing so would have been to minimize start-up delay by using the

smallest buffer size allowed by the “leaky bucket” algorithm (Ribas-Corbera, paragraph 9-10)

18. As per claim 35, Huang, Naegel and Ribas-Corbera combined disclose claim 34, wherein Ribas-Corbera further discloses an algorithm for reconfiguring the memory resources and the flow control logic on a receiver upon receipt of a descriptor having updated data (paragraph 25-48).

19. Regarding claim 43, Huang, Naegel and Ribas-Corbera combined disclose claim 34, wherein Naegel further discloses monitoring reception characteristics and statistics (noise level) for use in the selecting (figure 7, column 13, line 1-27);

20. Regarding claim 47, Huang, Naegel and Ribas-Corbera combined disclose claim 34, wherein Naegel further discloses the conventional channel is a first portion of transmission channel (upstream carrier) and the robust channel is a second portion of the transmission channel (column 9, lines 1-6).

21. Regarding claim 48, Huang, Naegel and Ribas-Corbera combined disclose claim 47, wherein Ribas-Corbera further discloses the descriptor includes multiple sets of buffer parameters (sets of leaky bucket parameters, paragraph 34), and wherein the multiple sets address transmission with different degrees of robustness to transmission errors such that rate for the conventional channel and rate for the robust channel vary from set to set (paragraph 34).

22. Regarding claim 49, Huang, Naegel and Ribas-Corbera combined disclose claim 47, wherein Naegel further discloses rate for the transmission channel exceeds rate for the conventional channel plus rate for the robust channel by an amount that varies

depending on transmission robustness (column 9, lines 1-6). Examiner asserts that total data rate for the transmission channel (upstream carrier) is the sum of rates for each channel. Because rate for each channel vary depending on noise level (higher noise level reduces SNR, or data rate), the total rate would exceed each channel rate also depending on noise level (transmission robustness).

23. Regarding claims 50 and 51, Huang, Naegel and Ribas-Corbera combined disclose claim 34, where Huang further discloses the relatively higher level of robustness of the data of the robust channel is in terms of increased use of cyclical redundancy codes within the data of the robust channel (paragraph 69).
24. Regarding claim 52, Huang, Naegel and Ribas-Corbera combined disclose claim 34. Examiner notes the method of claim 34 is performed by computing means in teachings of Huang, Naegel and Ribas-Corbera.
25. Claims 39, 40, 53-56, 60-62, 70-72, 74-76 are substantially similar to the above rejected claims. The same rejections are applied.
26. Regarding claim 66, Huang, Naegel and Ribas-Corbera combined disclose claim 62. Examiner asserts that in combining teaching of Huang with teachings of Naegel, and Ribas-Corbera, the buffer parameters of Huang would be applied to buffers of a receiver, and would corresponding with the channels (conventional or robust) the buffers are designed to work with.

27. Regarding claim 67, Huang, Naegel and Ribas-Corbera combined disclose claim 62, wherein Ribas-Corbera further discloses the data includes packets for video stream (paragraph 18).
28. Regarding claim 68, Huang, Naegel and Ribas-Corbera combined disclose claim 62, wherein Ribas-Corbera further discloses identifying the buffer size parameter includes selecting the buffer size parameter from one of the multiple buffer models (paragraph 37).
29. Regarding claim 69, Huang, Naegel and Ribas-Corbera combined disclose claim 62, wherein Ribas-Corbera further discloses the identifying of buffer size parameter includes interpolating between plural buffer size parameters of plural of the multiple buffer models (paragraph 37).
30. Regarding claim 73, Huang, Naegel and Ribas-Corbera combined disclose claim 72, wherein Ribas-Corbera further discloses based at least in part upon updated rate of the data for the selected channel, identifying in the receiver a new buffer size parameter from among the multiple buffer models (paragraph 36); reconfiguring the buffer in the receiver according to the new buffer size parameter (paragraph 37). Examiner notes that Ribas-Corbera teaches buffer parameters are computed according to R (rate). Subsequently, choosing a set of parameter to use for the buffer depends on the bit rate. In addition, Huang teaches bit rate can change depending on the transmission quality. In combining teachings of Ribas-Corbera and Huang, it is clear that a change in bit rate causes new buffer parameters to be computed to configure the buffer reconfigure the buffer in the receiver to prevent it from underflowing (Ribas-Corbera, paragraph 30).

Examiner notes that Ribas-Corbera also teaches the technique is applied to VBR (variable bit rate) transmissions.

31. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Ribas-Corbera, Naegel, and further in view of Jollota et al (PG Pub # 2004/0142699).

32. Regarding claim 44-46, Huang, Naegel and Ribas-Corbera combined disclose claim 43, but does not disclose monitoring various transmission characteristics. However, Jollota discloses monitoring symbol rate, signal-to-noise ratio, packet extent corruption (frame error rate), and other transmission characteristics (paragraph 23, 24). Teachings of Huang, Naegel, Ribas-Corbera, and Jollota are from analogous field of signal transmission, and specifically of transmission quality.

Therefore, it would have been obvious for a person of ordinary skill at the time of invention to combine teachings of Huang, Naegel, Ribas-Corbera, and further with teachings of Jollota by monitoring any one or combination of the signal quality characteristics for the benefit of determining transmission quality (Naegel; paragraph 23, 24).

33. Claims 57-59, 63-65 are substantially similar to the above rejected claims. The same rejections are applied.

***Conclusion***

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2/7/2006



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